confirms the diagnosis by showing a decreased rate of growth of the fetal biparietal diameter and a decrease in the total intrauterine volume associated with oligohydramnios. More recently, concomitant measurements of head-to-body circumference ratios have proved helpful in delineating IUGR.

When it has been determined that an aberration in growth exists during pregnancy, management includes counseling of parents, consultation with a neonatologist and tests to evaluate fetal well-being. The latter include electronic monitoring of the fetal heart rate responses to fetal movement and to uterine contractions. If these responses are normal and maternal vascular disease is absent, the patient may continue her pregnancy to term. Consideration of delivery before term may be an option when fetal lung maturity has been achieved. Because poor oxygenation often results in birth asphyxia in these infants during labor, fetal heart rate monitoring is indicated; a cesarean section should be seriously considered.

A neonate with IUGR has a constellation of problems which may include birth asphyxia with its associated complications of meconium aspiration pneumonitis and central nervous system depression as well as hypoglycemia, hypocalcemia, temperature instability and polycythemia. Problems related to congenital malformations and infections also occur. Close observation to prevent birth asphyxia in the prepartum and intrapartum periods and intensive neonatal supportive care result in the best long-term outcome.

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Recent Advances in Prenatal Diagnosis of Genetic Defects

A SIGNIFICANT ADVANCE in medical genetics is the ability to make an in utero diagnosis of genetic defects. The study of amniotic fluid constituents allows the diagnosis of all chromosomal and many metabolic abnormalities. However, some disorders are not manifested by changes in amniotic fluid constituents. The development of fetoscopy and the ability to obtain fetal blood specimens makes possible prenatal diagnosis of diseases not possible by amniocentesis—among these are the hemoglobinopathies.

Since the first reports of the prenatal diagnosis of a hemoglobinopathy over 700 pregnancies have been monitored. Both structural abnormalities (such as sickle cell) and abnormalities of synthesis rates of globin chains can be diagnosed in utero. The risk of fetal death and spontaneous abortion from fetoscopy and fetal blood sampling is approximately 4 percent to 5 percent when done by an experienced physician.

Some cases of sickle cell anemia can be diagnosed in utero using only amniocentesis. These techniques involve use of restriction endonucleases, enzymes which cleave DNA within specific base-sequence recognition sites. There is an endonuclease-defined DNA mutation on the same chromosome as (but not part of or related to) the sickle mutation in 50 percent to 60 percent of American blacks carrying the sickle mutation. Therefore, in this proportion of the families at risk, a prenatal diagnosis can be accomplished with amniotic fluid cells (which contain DNA) instead of fetoscopic blood sampling.

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The Value of Microsurgery in Tubal Repair

THE MICROSURGICAL APPROACH has been applied to every form of tubal repair, but its value has been definitely established only in reversal of female sterilization. Microsurgery appears to be of some value in repair of salpingostomy in cases of chronic pelvic inflammatory disease in that it results in 25 percent to 30 percent intrauterine pregnancies; at the same time, however, it increases the rate of ectopic pregnancies from between 2 percent and 4 percent to between 10 percent and 18 percent. It is of technical value in implantation procedures, but in only one report has the technique improved the percentage of intrauterine pregnancies reaching term.

Success with reversal of sterilization largely depends on how the sterilization was originally done. Unipolar cautery yields the worst prognosis for reversal whereas use of a tubal clip appears to